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CONTENTS

BRIEFS

SOVIET AID--Since late 1979, the Soviet Union has been helping us to re-equip the Hanoi Polytechnic College under the goal of replacing, supplementing or providing complete sets of equipment for scientific research and equipment supporting instruction and learning that is consistent with the level of scientific and technological development and meets the requirement of improving the quality of the training of the cadres of the various scientific and technical sectors. Of the nearly 30 million dong being invested in equipment, nearly 2 million dong are being invested in construction and assembly and in capital construction. To date, through the efforts of the college and the active assistance of Soviet specialists, the Hanoi Polytechnic College has received and installed equipment worth more than 10 million dong, including many valuable pieces of equipment, such as the EC-1021 electronic computer, tooth polishing machines and automatic lathes. [Text] [Hanoi DAI HOC VA THUNG HOC CHUYEN NGHIEP in Vietnamese No 11-12, Nov-Dec 80, p 32] 7809

LAO STUDENTS--On the occasion of the 5th National Day of the People's Democratic Republic of Laos, the Ministry of Higher and Vocational Education, in coordination with the embassy of the People's Democratic Republic of Laos in Vietnam, selected 74 Lao foreign students (18 women) studying at the various colleges and vocational middle schools for awards for good, very good and excellent achievements. [Excerpt] [Hanoi DAI HOC VA THUNG HOC CHUYEN NGHIEP in Vietnamese No 11-12, Nov - Dec 80, p 32] 7809

CSO: 4209/240

POWER CONSUMPTION MANAGEMENT BY SUBWARDS TESTED

Hanoi HANOI MOI in Vietnamese 7 Apr 81 p 3

[Article by Quang Cat: "Decentralization of Power Consumption Management in Cua Nam Subward"]

[Text] From the General Situation...

Hanoi's power shortage normally amounts to 20-30 percent, and as much as 50 percent of the need in some unexpected cases. Because of this shortage, distribution of power remains passive as the power sector does not know exactly the power transmission in each locality and at different time, hence, sometimes it is done at the sector's convenience and is far from rational, fair and economical. Although control and supervision of the use of power have been done, because the transmission network is vast and complex the job has not been very thoroughly done and timely enough. The regular transmission network, particularly the part that distributes power for consumers' daily activities, is very old and overused in many places, which remains to be overcome. The structure is far from rational as it includes the lines that serve households using power in different ways, between production and consumption, between priority and nonpriority use. As a result, power has been used carelessly, illegally and wastefully, mostly for everyday activities in the subwards of the four urban wards.

According to preliminary statistics, in urban Hanoi there currently are nearly 10,000 households being directly connected to meters and very many households use power supplied for lighting in production. In production, there are as many as 30-50 percent of production installations having violated the procedures for use of electric power. Such irrational and uneconomical use of power has created additional difficulties for the supplying of power and reduced the availability of power for production.

In 1980 the amount of power made available for industrial production was only 88 percent of that of 1979. On the contrary, power used in consumers' everyday activities increased by more than 14 percent.

In 1980 the Electric Power Service did pay more attention to fighting losses of power due to failure to collect payment, but it solved only 711 such cases involving the consumption of 6,704,622 kilowatt-hours at the cost of 807,072 dong, with 172 cases committed by different organs and involving 6,100,265 kilowatt-hours (708,667 dong) and 539 cases by the people and 604,357 kilowatt-hours (98,405 dong). However, those figures were nowhere near reality. Although they are not very large figures, if the lost power is used in production it will bring to the state a value at least 60 times larger in terms of money, which is 807,072 x 60 = 48,424,320 dong.

While there is a serious shortage of power sources and this shortage is going to continue for a while, the state has issued many positions, policies and directives about the distribution and use of power for the power sector and people's administrations at all levels to follow. But their effectiveness remains limited as they have not yet been fully absorbed by the people's base. The power sector does not enjoy wide support yet and still operates "single-handedly." The Electric Power Service itself lacks determination, is confused in dealing with a number of problems and still displays some negative action in the matter of power distribution. The latter is far from fair and rational while the use of power is not yet safe and economical, with regulations being ignored and consumption tending to increase.

In this situation a question has been raised: in order to make the distribution and use of power effective, one of the measures to be taken is to closely combine the management of power consumption on the basis of sectors and of geographical zones and to develop more vigorously the collective ownership right of the people, both the distributors and users of power.

In 1980, the Ministry of Power and the North Vietnam Power Corporation adopted the position calling for entrusting the primary management of power consumption with the subwards of the four urban wards, where there are the most secondary transmission lines and there had been many current problems about the distribution and use of power being not yet safe, rational, economical and in compliance with the positions and policies. That was a positive and creative position. In June 1980, as the Electric Power Service carried out the above-mentioned directive, it selected Hoan Kiem Ward and made Cua Nam Subward the site of a pilot project.

...To Management in Cua Nam Subward

First of all, perhaps we must praise Cua Nam Subward for having actively and enthusiastically done this job. Since last June its VCP Committee and People's Committee have expended a lot of brain power and energy to do very many things. Along with the Electric Power Service representative, they set up a special-assignment team, met with the neighborhood cells to disseminate the position and the ways to carry it out, started a basic investigation of every power-consuming

household and then looked closely into and handled the cases of illegal use of power and signed again contracts on standardized use of power, etc.

As the work was going on, many people welcomed it, but those who opposed to it (because it affected their personal interests) were not few. We need to know that Cua Nam is a densely populated subward lying at the edge of Hoan Kiem Ward and adjacent to Ba Dinh and Dong Da Wards, a very complex communications and business hub. It has 555 house numbers and 2,615 households, with 13,000 people. There are here 46 organs, 3 enterprises, 44 handicraft cooperatives and cooperative teams, 70 individual production households, 450 registered individual small-business households and 300 unregistered such households.

Three transformer stations located at the market, the park and No 147 Nam Bo Street supplied power to the subward; in addition, there were two more stations on Hai Ba Trung and Yet Kieu Streets. These five stations supplied power to the subward and also other zones in a grid-like network. The transmission lines were sagging, old and worn; meters in many cases had lost their protective seals and in other cases had burned out. The low-voltage network was overloaded in many places where it was not safe, with voltage being too low in many places. Power consumption by the people in the last 5 years had increased 4-5 times. The investigation showed that the use of power was really excessive: 8,476 light bulbs serving everyday activities, 4,159 table fans, 2,484 ceiling fans, 1,060 transformers of all kinds, 1,268 irons, 1,060 radio receivers and tape recorders, 1,032 television sets, 1,157 refrigerators, 224 motors using three-phase and regular current, etc.

The distribution of power here was also irrational. For instance, a three-phase meter was connected to lights-feeding lines; a meter supplied power to too many households; almost all meters had lost their protective seals, which caused considerable losses of money for the state for many years. There were very many cases of illegal use like connecting wires to get power from priority lines, stealing power, using power for daily activities in production, using power carelessly and wastefully, etc.

Reading the reports of the power control team made one realize that it was doing its job very carefully and seriously. It surveyed all of the households, organs and enterprises using power in the subward to grasp the situation; made tens of reports on violations; and in coordination with the activities of the electric power business and supervision office, recommended a retroactive collection of power consumption charges for the state.

The initial results were obvious: it uncovered and handled 135 cases of illegal use of power by organs and people, collected 10,377 dong and resealed hundreds of meters. In addition, it also uncovered hundreds of cases of using power for light bulbs in production and 29 cases of lights-feeding meters serving too many

households, hence, causing difficulties to the people's daily activities. It obviously succeeded in consolidating and improving the distribution and safe, rational and economical use of power and fighting illegal uses of power and losses of money for the state. On the other hand, it resigned nearly 1,000 contracts for supplying power at the standardized and economical levels. Thus for the first time the use of power was made orderly and in conformity with regulations.

By continued observation, it was found that the standardized use of power did save a lot of electric power. The power consumption of 610 meters of individual households in December 1979, when standardized consumption was not yet in effect, totaled 66,825 kilowatt-hours, but in December 1980 when standardized consumption was in effect, it totaled only 49,890 kilowatt-hours. That represented a saving of 16,935 kilowatt-hours, or about 25 percent. A household's average month consumption dropped from 46 to 29 kilowatt hours.

By observing the standardized use of power in Cua Nam Subward, it was found that many households consumed too little power as compared with the norms (this could be the case of the norms being not too accurate, or it could mean power was illegally used without meters) and other households exceeded the norms by 2-3 times, and even 10 times (it could be the case of power being used too wastefully, or it could mean power for daily activities was used for production). Also through the standardization of power consumption it was found that the collective households of cadres and workers did reduce their consumption, but not as much as the people's households did (the collective households consumed 89 kilowatt-hours per month in 1979 and have reduced this consumption to 56 kilowatt-hours now).

...And Expanding to Other Subwards

Through the pilot project it was found that entrusting Cua Nam Subward with the management of power consumption brought about many obvious gains. Let us make some calculations: in Cua Nam Subward a 25 percent saving resulted from an economical use of power. As the total power consumption for the urban population's daily activities in 1980 was 109,882,595 kilowatt-hours, if all of the 79 urban subwards did save 25 percent of their power consumption as Cua Nam did, the annual saving would amount to about 27,000,000 kilowatt-hours. This amount of power could be enough for 75,000 people's households consuming 30 kilowatt-hours per month, or 30 water supply stations for daily activities in a year (these stations use 26,000,000 kilowatt-hours a year), or 925 handicraft production installations (they use about 28,000,000 kilowatt-hours a year), or nearly half of all of the enterprises in Hanoi (237 enterprises use about 48-50 million kilowatt-hours a year).

The most important result obtained from giving power consumption management to the subwards was raising the effectiveness of the state management by closely combining management on the basis of sectors and management on the basis of

geographical zones. Through the experience of Cua Nam Subward, it was found that the power consumption management has helped to boost the prestige and usefulness of the local administration. For the power sector, if the administration took part in this management, the effect would be to raise the legal effectiveness of the sector and to help it to manage better and more favorably. Giving this managerial task to the subwards would also help to fight the negative phenomena in the business, distribution and use of power. In Cua Nam Subward, such shortcomings as distributing power irrationally, hiding power to collect money and causing difficulties for the people were prevented in time; at the same time, the illegal use of power and the distribution of power to the wrong users have decreased.

Through the experience of Cua Nam Subward, in November 1980 the Electric Power Service extended the experiment to 20 other subwards in the 4 urban wards.

These subwards have almost completed step one, which is the one that calls for making a basic inspection and survey of the distribution and use of power. As compared with the need, their work has been carried quite slowly. However, some subwards have done a good job. The ones like Phuc Tan, Giap Bat, Quynh Loi, Nam Dong and Giang Vo, along with the Electric Power Service, have actively handled hundreds of cases of illegally using power, which had not been solved for many years, and have collected hundreds of thousands of dong of back pay for the state. Giap Bat and Phuc Tan Subwards have collected 50,000 and 1,997 dong of back pay, respectively.

The reason why Phuc Tan, Giap Bat, Quynh Loi, Nam Dong and Giang Vo Subwards have done a good job initially as they now assume the management of power consumption is that they have had the active support of the people's committee and the people in their subward.

To give the management of power consumption to subwards is one of the basic matters that help to better the distribution and use of power. However, in this undertaking there still are weaknesses that must be quickly overcome, such as the distribution of the task is not yet clear; many aspects of authority overlap one another; the organization of manpower, as well as expenses for power management, remain patchy and confusing, etc. Such weaknesses have greatly limited the effectiveness of the job.

If the remaining problems are resolved in a timely and quick manner, not only the people's committees of the subwards but also the Electric Power Service will be in a more favorable position to carry out the job more effectively.

5598
CSO: 4209/340

ALARMINGLY POOR QUALITY OF PRODUCTS GENERATES WORRIES

Hanoi LAO DONG in Vietnamese 9 Apr 81 pp 1, 7

[Article by Huu Tinh: "Through the National Product Quality Conference -- Happiness and Worries"]

[Text] For the last several years the products we manufactured have been valuable export goods being well liked by the world market. We are very happy about the quantities of goods quickly increasing everyday, but we cannot help mentioning the concerns and worries of consumers about the present quality of our products.

Still Too Few!

In the present difficult situation, many production installations have urged the masses to overcome any difficulties and to take many good measures to improve the quality of products. One of those measures was to improve their equipment, to change industrial plans and to adopt a system of spiritual and material encouragement to benefit workers. As a result, the quality of their products was maintained, thus resulting in prestige they enjoyed among customers. Many types of transformers (Hanoi Transformer Plant), water pumps (Hai Duong Pump Manufacturing Factory), drill bits for export (Tool Factory No 1), portable fans (Thong Nhat Electric Motor Factory and Haiphong Power Plant); a number of goods produced in the light industrial sector, such as white linen 3925, blue khaki 5434 (8-3 Textile Mill), silk fabrics of sparse and oblique cloud designs (Nam Dinh Silk Textile Mill), shirts for export (Dong Nai Ready-made Clothing Enterprise in Ho Chi Minh City), protective clothes for workers (Quang Ninh Ready-made Clothing Enterprise); and many other products like pharmaceutical products, phosphate fertilizer, the P.400 brand of cement, etc. were some products of high quality. In 1980, the state granted grade 1 quality seals to the first four kinds of products. As compared with the quantities and types of the existing products, the ones that maintain steady quality and are liked by customers are not numerous. There are too few of them, in spite of the fact that they represent commendable results.

Worries of Consumers

With the present needs of our people throughout the country, although our economic sectors have been trying very hard, the quantities of goods produced can satisfy only some of those needs. While the quantities of goods are small, their quality is something that needs to be worried about. We can say that lately many kinds of goods coming from many production installations have seriously declined. Some examples hereunder -- just a few -- can prove that statement.

The quality of different kinds of building materials today has declined in an alarming manner. Grade A bricks are very low, as compared with the quality called for in the plan. The percentage of broken, cracked and curved bricks is quite high; a number of production installations making low-grade cement have not even reached the quality required. Furthermore, during construction the lack of a sense of responsibility, the failure to adhere to building plan and code and miscalculations have led to the collapse of the structures under construction (the Nguyen Trai movie house in the city of Ha Dong, the raw materials-storing facility of Van Dien Phosphate Fertilizer Plant and 10 houses of Dong Da Rug Weaving Cooperative in Hanoi) causing great damages for the state.

The quality of bicycles, which are our people's primary means of locomotion, has seriously worsened. Tens of provinces and cities have production installations that make bicycles, but the quality of their products is excessively poor. Ninety percent of the bicycles made in city H. fail to satisfy the quality requirement. Poor assembly of parts, inferior welding and chroming, even inadequate putting together of parts contribute to the poor quality. Very many bicycles cannot be used right after they have been bought, not before buyers pay for repairs and assembly once again. A reader in the city of Nam Dinh wrote: "On 29 December 1980, I was allowed to buy a lady's bicycle of the Nam Ha brand at the electrical and machine store on May To Street, Nam Dinh. After a day of fixing and adjusting almost all of its parts, it was somehow usable, but the chain did not exactly fit the sprocket wheel and free wheel, and as I pedaled a few times, the chain was pulled upward and then completely disengaged from the sprockets...." Lately, the tires and tubes of Sao Vang brand also showed very obviously their poor quality.

Some materials and fabrics made by the light industry, particularly in the southern provinces, are of alarmingly low quality. City H. had up to 3 million meters of cotton materials that failed to satisfy the quality requirement and thus cost the state millions of dong. The same poor quality was seen among such goods as T-shirts, towels and socks. T-shorts showed very loose weaving pattern; towels did not have the right dimensions and, instead of lasting for 8-12 months as they used to, were worn out within 2-3 months, even 1-2 weeks.

Soap, a necessary item of daily use for the people, recently showed that many production installations have failed to be responsible toward the consumers and thus caused great losses for the people and the state. The liquid detergent of Factory H. (Hanoi) contained 85 percent of . . . water. The bentonite soap made in a southern city contained mainly fillers. Thousands of tons that have been brought to the northern market remain unsaleable, thus causing losses of hundreds of thousands of dong.

A number of office supplies and products of the grain and food sector were in similar conditions. The organic fertilizer made by a fertilizer-producing enterprise in Province L. showed in the tests conducted for control purposes that it was even inferior to . . . the soil in the same locality.

The fact that goods are scarce, costs are high and quality is exceedingly poor makes consumers worry deeply and creates a tendency to be afraid of and to underestimate the goods we ourselves produce. One must include a number of counterfeit goods being secretly sold in the market or hidden behind the "state operation" screen.

Why?

There are very many reasons behind the declining quality of our products. First of all, production installations were strictly after volume of production and failed to observe correct standards and industrial pattern. In addition, the leading managing organs failed to adequately fulfill their role of leadership and guidance, nor to assist production installations in resolving the difficulties and troubles encountered in production. Many production installations failed to stabilize their production plans, nor to know very well the needs of consumers.

In the present difficult situation, there still are quite a lot of cadres in charge of leadership in production and business who blame it on objective reasons while failing to fully recognize their own responsibility for seeking the proper measures to improve the quality of products. There still are quite a lot of cadres and workers who do not recognize the proper importance of product quality. Since they believed that "in the present situation, to have some goods is better than to have none," they did not pay attention to the quality of their own products. There also are very many other reasons, such as assigning plans, supplying materials, financing, setting irrational prices and procedures and policies, that contributed to worsening the quality of products.

A Small Proposal

"The quality of products must be a yardstick to measure the responsibility and conscience of producers and of every management cadre toward the people and the country." Those were the words of Deputy Premier Vo Nguyen Giap at the

recent nationwide conference on management of product quality. We cannot accept the situation in which the quality of products is left to "float" as it is now. Consumers demand from production installations abundance and varieties of products, but their quality must be guaranteed. If the responsible leadership echelons do not quickly find every possible measure to overcome the above-mentioned reasons, the quality of products will face the danger of declining even further and causing excessive losses to the state.

Many people would like to set forth a small proposal: in addition to motivating and educating cadres and workers to display their sense of responsibility in regard to the quality of the products they make, should the leadership echelons change the method of control and delivery of products at the production installations? In our opinion, the KCS section should not be left within the organization of production installations, but instead it must be an independent supervisory organ separated from the latter. Only then will the control and delivery of products be objective enough to avoid the state of "pressure" the KCS is now in.

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CSO: 4209/341

EDITORIAL DEALS WITH PRODUCT CONTRACTS IN FARMLAND WATER CONSERVANCY

Hanoi NHAN DAN in Vietnamese 4 May 81 p 1

[Editorial: "Product Contracts and Management and Exploitation of Farmland Water Conservancy"]

[Text] After many years of construction, we have now a noteworthy material-technical base for water conservancy to promote agricultural production. There are hundreds of farmland water conservancy networks capable of providing enough water for 1.5 million hectares of fifth-month and spring rice--90 percent of the cultivated area--and draining 80 percent of the area requiring drainage in the principal rice producing provinces in North Vietnam.

Throughout many water conservancy movements, the provinces in Bac Bo and former Zone 4 have built many relatively perfect networks from the hubs to the surface of ricefields. During the movement to emulate with the Cau Ghe farmland water conservancy group, many networks have properly managed and exploited the works and carried out regulations on the operation of irrigation and drainage systems according to scientific methods. However, there still remain many networks which have been unable to bring the planned capacities of the works into play, which have neglected to repair and maintain these works in order to increase their usefulness and which have continued their activities in a pluralistic administrative manner without taking the end result of agricultural production into consideration.

The movement to apply the system of product contracts with laborers is making it more necessary for the agriculture promoting sectors to formulate new working methods. If the laborers accept to carry out three jobs on contract and to assume responsibility for the end product, the other jobs which are to be done by the collective and which include irrigation and drainage must be carried out on schedule and satisfactorily.

The farmland water conservancy sector in certain areas has quickly changed its working and organizational methods and has closely directed farmland water conservancy stations, groups and teams in order to better serve agricultural production. Wherever this task is satisfactorily carried out, the water conservancy sector and the agricultural sector closely coordinate their activities through the farmland water conservancy groups and teams. Because the responsibility for production has been emphasized, efforts have been made to use water sources more rationally and economically, to water crops according to their growth requirements and to create

conditions for linking these measures with other agricultural ones to increase productivity. Farmland water conservancy teams have been consolidated and strengthened and their standard of technical knowledge about water drawing and irrigation heightened. People have self-consciously repaired and dredged canals and built additional ones.

The situation of the fifth-month and spring agricultural season this year has shown that electricity supply to agricultural production has been very low and has, even at its peak, come to only 70 percent of the electricity output during the previous season. However, sufficient water has been rapidly drawn into fields, making it possible to carry out sowing and transplanting on schedule because the weather has been favorable and also because the method of establishing product contracts with laborers has produced its effect.

The duties of farmland water conservancy teams belonging to production installations vary with local characteristics and the conditions of water sources. In certain areas, these teams are responsible for drawing water into each field and keeping it there while in others this task is entrusted to cooperative members. No matter which method is applied, the irrigation of fields and the maintenance of water on the fields' surface must be carried out ever more satisfactorily.

Networks which have the conditions for taking the initiative in controlling water sources such as reservoirs, dams and tidal areas must gradually revamp their organization, perfect canals, properly implement operational regulations and heighten the rate of efficiency of the existing works. Networks which are still encountering difficulties in using electric pumps must take measures to fully use electricity while it is supplied and must actively create sources of water and motivate the people to employ manual equipment to control drought and waterlogging when the need arises.

The application of the system of product contracts with laborers requires the farmland water conservancy management and exploitation sector to effect a shift in its working method and its sense of responsibility for the service to be rendered to better meet the requirements of agricultural production.

9332
CSO: 4209/326

1978 FLOOD PREVENTION LESSONS

Hanoi THUY LOI in Vietnamese No 3-4, Mar-Apr 80 pp 9-14

Article by Nguyen Van Sang, Deputy Director, Planning Office: "The Flood Prevention Lessons of 1978"

Text In 1978 the weather conditions changed irregularly and extremely violently, causing very severe calamities along the length of the country. In order to draw the necessary conclusions for the work of production and edification, at the end of November 1979 the water conservancy sector called a conference to evaluate accurately such aspects as weather characteristics and hydrology and to draw the lessons needed for the work of outlining plans, blueprinting, management and organization building in the fight against flood and waterlogging in various areas around the country and on the water conservancy work of 1978.

Below we would like to summarize the conference results as regards the following aspects:
—The flood prevention lessons of 1978.
—The lesson of flood prevention in water reservoirs.
—The 1978 lesson regarding the organization of waterlogging prevention.

In the context of this article we would like to discuss a number of lessons in flood prevention learned during 1978.

I. Characteristics of the Torrential Rains of 1978

As far as the rains are concerned, the rainy season in both North and South Vietnam started early and ended late, with the greatest intensity concentrated during August and September. The rainfall was extremely heavy, and in many localities it surpassed the average of many years.

As early as 16 - 18 May, there had been heavy rainfall from 100 to 500mm, or the double of the average over many years, in the mountain regions and delta of North Vietnam.

From May to July, there had been a great rainfall in the upper reaches of the Mekong in South Vietnam.

During the whole rainy season there were 13 waves of great rainfall, with 11 of them concentrated in North Vietnam 9 of which happened in the delta. In Central Vietnam the rains fell heavily in September. Towards the end of the season, from

22 to 26 October there was heavy rainfall of 120 to 320mm going from North Vietnam down to Binh Tri Thien and from 2 to 5 September (November?--Translator) there was heavy rainfall from 100 to 300mm from Hue down to Thuan Hai.

The breaking up storms caused extremely heavy rains over very wide areas in the delta and along the coasts of North and Central Vietnam. Hurricane number 4 caused a record rainfall in Laos and Northeast Thailand, 400 to 650mm in Binh Tri Thien, 300 to 400mm in Nghe Tinh, 200 to 300mm in the delta of North Vietnam and in Thanh Hoa. Hurricanes numbers 7, 8 and 9 caused continuous rainfall, which became heavier and heavier, reaching 1200-1300mm in Binh Tri Thien from 17 to 28 September, 1300-1700mm in Nghe Tinh, 700-1100mm in Thanh Hoa and over 200mm in central and southern Laos. Hurricane number 8 which took place on 21 and 22 September caused great rainfall in the southern part of the North Vietnam delta (400-500mm), in northern Thanh Hoa (400-700mm), and especially south and north of the Tam Diep range and along the Day river (700-1290mm). This excessively great rainfall had far exceeded all the rainfall levels used to predict and struggle against waterlogging in these areas.

The hurricanes brought an enormous amount of humid air into the country and as they met with the coastal high ranges they caused record rainfall in decades in many areas and especially in Do Luong (Nghe Tinh) on 27 September, where a record rainfall for one day ever registered in Vietnam came to 788mm/day, compared to the previous record registered on 24 September 1963 in Thanh Hoa of 731mm/day. On the same day, 27 September 1978, at Thac Muoi the rainfall was 780mm, at Bau Nuoc 760mm/day and 1787mm in 3 days. At Dac Tu it poured 250mm in 6 hours and at Ba Tha 223mm. At Dai Tu it rained 407mm in 12 hours and 423mm at Ky Phu.

In the nearby mountain areas it may have poured an even higher rainfall, and the torrential waters rushed towards the delta and the reservoirs causing extremely high levels of flood water going well beyond the planned capacities of the works and thus causing record-making floods on the Ca river and a number of other small rivers along the coast.

The Mekong Flood Waters in South Vietnam

Because of the early rains, the water level of the Mekong already was quite high at the beginning of July. Hurricane number 4 which crossed the Vietnamese Cordillera caused extremely large rainfall from northern to southern Laos and in the northeast of Thailand, which in turn brought about the highest watermark ever recorded for August in the last several decades all the way from Vientiane to the sea; from Thakhet to Pakac, the highest record ever registered was found at Pakse (14.48m). The characteristics of this wave of floodwaters were that the volume was extremely large, the peak was extremely high, and its speed of growth was extremely fast.

By the time it reached Kampuchea, part of it had flowed into the Tonle Sap and been retained by the immense riverine fields that were not yet flooded. Yet by the time it reached South Vietnam it was still very strong with the water level rising from 8 to 13cm per day, or twice the normal rate of 6 to 8cm a day in normal years. The peak water-mark measured in Tan Chau on 30 August was 4.88m, which is the highest recorded in the last several decades and is only slightly lower than the peak recorded in the highest flood level ever recorded in 1961 by 0.40m.

This first wave of floodwaters overflowed the river to flood the fields of Thap Muoi and the Long Xuyen rectangle, causing extremely widespread flooding, at a level so deep that it submerged not only the summer-autumn rice that was ripening but also killed the floating rice.

Thereafter the waters receded slowly because it rained very hard in the delta of the South, accumulating 150 to 400mm of rainfall or a much greater level than the average over the last many years (70-120mm). On 14 September when the water-mark in Tan Chau went down to 4.49m the floodwaters coming from the upper reaches of the river as a result of hurricanes numbers 8 and 9 came and flooded over the first wave, causing a new peak which in the second wave was even higher than that of the first, with the watermark rising to 4.94m in Tan Chau on 9 October. The floodwaters in the Thap Muoi plain and in the Long Xuyen rectangle also rose again with a speed and a volume greater than in the first wave. Furthermore, because the heavy rains came down on top of the first wave floodwaters and ran into high tides the water level in the rivers and in the fields in flooded areas near the sea rose both higher than the flood level of 1961 and 1966. Consequently, the water level being deeper, the flood area was correspondingly extensive and the flood period dragged out longer--the water level in Tan Chau peaking 3.50m or more lasted for 95 days. For these reasons it can be said that as far as the Mekong delta is concerned the 1978 floods were the most serious in the last several decades.

Through the realities that we were able to measure in 1978 we can see that the water level may be the same but the volume of floodwaters crossing the Vietnamese-Kampuchean border to go into the Thap Muoi plain proved to be higher than the level calculated and projected from earlier measurements. As for the lower reaches of the Mekong, the area and duration of floods coming from the Thap Muoi plain and Long Xuyen rectangle turned out to be much greater than projected.

The Floodwaters of the Red River and the Thai Binh River

There were no great waves of floodwaters in the Red River and in the Thai Binh River in 1978, but there were up to 9 or 10 peaks in the whole flood season. Of note is the fact that at the beginning and at the end of the season there was an upsurge of floodwaters, which happened to be a record level for the floodwaters for the same period.

On the other hand, the flooding of the Day river, an almost coastal tributary of the Red River, was a historic event caused by the hurricane number 8 which brought about extremely heavy rains on a very extensive area, which is very unusual for this part of the country. The water level of the Day river in Phu Ly reached 4.45m, which is higher even than the time the Day was flooded from waters coming from the Red River in 1971. The flooding of the Hoang Long river also was very great, the water rose very fast and during a period of 23 hours the water level at Hung Thi rose from 7.72m to a peak of 18.92m while the one in the lower reaches at Ben De and Gian Khau reached the record level of 5.42m and 3.79m respectively on 22 September.

The flooding of the Day river was high and lasted so long that the rain water caught in the fields of Ha Son Binh and Ha Nam Ninh could not be drained off, causing extremely serious waterlogging.

The Floodwaters of the Ca and Coastal Rivers of Central Vietnam

Owing to the influence of the hurricanes numbers 7 and 8 we had the first wave of floodwaters on the Ca river. The water level on the La river reached alert level 2 and in the lower reaches of the Ca river reached above alert level 3. And as the water was still receding but slowly there happened at once hurricane number 9, with especially heavy rains from 26 to 28 September in the middle and lower reaches thus causing historic flood waves on the Ca, Giang and La rivers; compared to the floods of 1954, the water levels actually measured or restored to their original values were found to be all higher. The highest watermark found at Dua was 22.42m and in Nam Dan was 9.75m.

The high flood duration lasted 15 to 17 days, or the double of normal years. For that reason the dike system of the Ca river was severely threatened, all the draining sewers had to be closed, and the flooded fields were severely waterlogged.

In the same period the small coastal rivers from southern Thanh Hoa down to Binh Tri Thien such as the Muc, Tri Long, Bung, Giang, Nghen and Gianh rivers, etc. all saw record flooding levels or at least extremely heavy floodwaters causing extremely heavy floods and waterlogging.

II. A New Understanding and New Lessons

1. In the rainy season of 1978 the heavy rains started early and ended late; in the middle of the season itself rains fell one after another, bringing down a great volume of water and for long periods of time, adding to a huge volume on an extremely extensive area due to the hurricanes.

1978 was a year where many hurricanes headed into our country, 7 in all. The hurricanes hit Central Vietnam early (hurricane number 2 hit Phu Khanh on 30 May) and the late ones hit North Vietnam as late as 3 October (hurricane number 10 hitting Quang Ninh).

Thus, 1978 was a year where the rain and hurricane pattern was somewhat abnormal but the pattern was not something extraordinary as compared to the evolution of abnormal years that we have witnessed in the past. Normally, every year there are on an average five hurricanes hitting our country, with some year having up to 11 or 12 (altogether 12 hurricanes hit us in 1973). Normally the early hurricanes hit North Vietnam first (from May to July), then they hit Central Vietnam from August to October and South Vietnam from October to November. But on many occasions, the hurricanes of April and May already hit the extreme southern part of Central Vietnam, some May hurricanes having hit Quang Nam, Da Nang, Nghia Binh and Phan Thiet (especially the hurricane of 25 April 1978 hit Phan Rang and Thuan Hai). On the other hand, in some years the hurricanes of October and November could still hit North Vietnam.

Because of our geographical position, our country is a narrow peninsula that is extended longitudinally and squeezed in between the Asian land mass and the immense Pacific Ocean. Here the high pressure air of the continent and of the ocean in the monsoon system has to fight ferociously sometimes with the system of circulatory winds. At the beginning of the summer the high pressure air of the Pacific which has just been reinforced sometimes has the upper hand but sometimes

cannot quite overwhelm the northeast monsoon which is getting weaker. By the end of the summer, the reverse is sometimes true, that is the high pressure air from the Pacific may not quite have become weak as compared to the northeast monsoon.

Also because of the irregular movements of the monsoon the rainy season sometimes starts early in our country and ends late or vice versa, there may be rain and wind the whole year round from the first part of the season to well into the last part of the season, with violent rains sometimes. As for the intensity level and path of the hurricanes we may also have extreme variation which can be quite complicated depending on where we are and depending on the originating and evolving conditions of the hurricanes, the relative strengths and weaknesses as well as the movements of the high pressure air all along the path and during the whole time of the hurricanes. Also because of the irregularities of the monsoon we may have more or less hurricanes, or they may happen earlier or later than normally; they may in fact hit almost any point throughout the length of our country, at any point in time from the beginning of the season till the end, causing heavy rainfall, waterlogging and floodwaters along the coasts and in the plains. We must therefore pay constant attention to fighting and preventing them, otherwise we would be taken by surprise and suffer damages.

2. In 1978 the hurricanes combined with other weather modes to cause extremely heavy rainfall on very large areas, such as hurricanes numbers 4 and 8 which caused prolonged and heavy rainfall from Quang Ninh to Binh Tri Thien and Quang Nam - Da Nang on a distance of almost 1000 kilometers spanning half the length of the country, besides the great amount of rain that fell from northern to southern Laos and over northeast Thailand. The extremely large rain area which extended over unusually broad surfaces in many localities, such as the rain caused by hurricane number 8 over the Day river area (southern part of the Red River delta), that caused by hurricane number 9 in Nghe Tinh and Binh Tri Thien, and that caused by hurricane number 10 which originated in Bac Thai and caused great floodwaters in many rivers at the same time, including the various confluents of the Tich river, the Day river, the Hoang Long river, the Ca river, and the La river, which all met and caused a historic flood in the Ca and Day river basins.

With the rains and storms one coming after another, the floodwaters still had to drain off when other flooding rains already came to ride on top of the earlier waves. On the rivers and in the water reservoirs there developed the phenomenon of the double flooding, creating an enormous amount of floodwater with very high peak levels seriously threatening the dikes and embankments, overflowing and demolishing the majority of the small and middle-size dams and reservoirs. In the fields as well as on the rivers there was just too much water which there was no way to drain off, causing serious waterlogging.

We will have to focus our attention on studying the ways to respond to such prolonged double flooding phenomenon, by designing appropriate types of dikes and embankments and by drawing up appropriate drainage systems before we can guarantee the safety and successful preventive role of the dikes and embankments and of the drainage system.

3. In 1978 there were 3 hurricanes (numbers 4, 8 and 9) hitting between Nghe Tinh and Binh Tri Thien which caused great rainfall in central and southern Laos and northeast Thailand, at times bearing even on northern Laos and Kampuchea, causing great floods on the Mekong river from Vientiane down to the sea.

The hurricanes are one of the main causes of large flooding in the lower reaches of the Mekong and in the delta of South Vietnam. We must therefore study carefully as to when and where they hit our coasts so as to cross the Vietnamese Cordillera and combine with other weather elements to cause great rainfall and flooding on the western slopes of the Cordillera.

The hurricanes hitting Central Vietnam usually occur in September and October but quite often they hit earlier like in July or August, and sometimes as early as May or June. For that reason the flooding of the Mekong can happen during August or even earlier. Hurricane number 4 which hit Nghe Tinh on 12 August caused great rain and flooding in a first wave on the Mekong on 30 July (August?--Translator). In southern Laos August was the month in which we had the greatest rainfall. Fifty percent of the floods peaking in Pakse happen as a rule in August. Since 1961 there have happened 3 great floodings in August and towards the beginning of September; in Tan Chau the water level recorded on 2 September was 3.95m, on 11 August 4.50m, and on 30 August 4.88m.

Here the great floodings of July cause considerable difficulties for the harvesting of the summer-autumn rice crop. In the long range, in order to sow and plant for 2 certain crops in the flood-prone areas of South Vietnam we will have to have flood prevention works built. In the immediate future we must strive to push back the sowing time of the summer-autumn rice so that it can be harvested before the floodings of July. That apart, we will still have to pay attention to fighting the floodings that may come even earlier.

4. In the case of the provinces of North Vietnam where there already exist flood prevention works the central task that remains is to consolidate the dikes and embankments, the sewer system and other flood prevention works before the floodwaters come, and to protect them and promote all their functions in order to safeguard production in the fields. As for the provinces in the South which do not as yet have flood prevention works and where the flooding waters are free to come and go in and out of the fields, the central task of the flood prevention work is to organize well the avoidance of its interference with production and the protection of life and property for the people and for the state.

Along the coasts of Central Vietnam, from Binh Tri Thien down, the rivers have small beds, they are short and have high inclination, which makes that the floodwaters can rise and fall very fast, we can grow August rice (harvested at the end of August and beginning of September) thus avoiding the main flooding periods of September, October and November. In years with normal climatic conditions we will then have good harvest and in those when there is early flooding happening before August we will have to accept poor ones. We will need to have works meant to help in fighting early floodings (in August) in Binh Tri Thien where there seem to be the most difficulties.

In the plains of South Vietnam the time of great floodings lasts from 3 to 4 months from August-September to November-December (October-November?--Translator), but the water level rises and falls very slowly at the rate of 6 to 10cm per day. In the immediate future when we do not as yet have flood prevention works we should not, first, sow and transplant in the main period of flooding, and secondly, grow floating rice so that it can climb after the floods. In this way we will have a harvest in years when the water rises slowly and its level low and we will lose it in years when we encounter natural calamities.

5. In the provinces of South Vietnam the protection of life and property for the people and the state constitutes the central, number one task.

In the coastal areas of Central Vietnam where high grounds either alternate with or are not found too far from the plain areas, we must move people's homes and the warehouses of enterprises onto these high grounds. What cannot be moved now to the high grounds should be protected by plans and means that will allow us to move them speedily to the high grounds. Here the floodings happen extremely fast and one must absolutely not be subjective. The lesson of 1975 in Hue regarding the removal of people and running away from the floods was full of tension.

The flood area in the delta of South Vietnam is very extensive and deep, it is further complicated by criscrossing canals and large populations which will not be able to go and find high grounds in the flooded areas for both people and warehousing. When great floodings occur we have to remove an extremely large number of people and property, which is an extremely intricate operation for the rear areas fighting the floods, which in 1978 we did not have the experience of, beside the fact that the floodings were a surprise and thus caused immense difficulties. To solve this situation we (must?--Translator) have blueprints for removing the population in time and completely with enough means both on land and on water, relying especially on hydrological characteristics of the Mekong river which are that the floodwaters rise and fall slowly and that the distribution of canals and rivers is quite even and thus favorable (for transportation in every direction--Translator). We must combine the organization of hydrological forecasts for the short and medium range, fight against time so as to move people and property within a certain time limit and speed harvest the summer-autumn rice crop, thus avoiding the surprise effects that resulted in great damage in 1978.

6. The geographical and hydrological conditions of the Mekong river network are quite favorable to the work of short and medium range hydrological forecasting, thus it is possible to effectively beef up the work of summer-autumn harvesting and of moving populations in the wake of the floods in the delta of South Vietnam.

By the time it reaches Tan Chau the Mekong has a basin capacity of 740,000 square kilometers of which the upper reaches area around Pakse (650 kilometers back of Tan Chau) already covers 540,000 square kilometers or 72 percent of the total area. The basin area in between the two stations covers 204,000 square kilometers, of which 110,000 square kilometers belong to the Tonle Sap branch in Kampuchea. When the water level rises the Tonle Sap and its tributaries receive the total volume of flooding which comes their way but also an important amount of flooding coming from the Mekong. Besides, one must still count the basins of the Sesan and Srepok which cover over 30,000 square kilometers and carry the waters coming from the Western Highlands of Vietnam. The remaining area, from 30,000 to 40,000 square kilometers, corresponding to about 5 percent of the total area, is the basin area of the Mekong around Tan Chau. For this reason, we may want to cooperate closely with Laos and Kampuchea, use the data coming from the Pakse hydrological station or consult those of Stung Treng to forecast relatively accurately the flooding level of Tan Chau. The time it takes for the floodwaters to move from Pakse to Tan Chau is about 12 to 14 days. At the beginning of the flooding season the Tonle Sap and the plains of Kampuchea are not yet flooded, when the floodwaters come they first have to fill in this part of the peninsula and thus the time it takes for them to reach Tan Chau from Pakse can correspondingly be longer.

On 17 August the floodwaters at Pakse rose to their highest level of 14.48m and on 19 August the Mekong Project international office, basing itself on the meteorological and hydrological data of Laos and Thailand, forewarned us that there would be great flooding in the Mekong delta of South Vietnam corresponding to the 1966 flooding level by the end of August and beginning of September. True enough, on 30 July (August?--Translator) the flooding peak in Tan Chau in the first wave of flooding rose to 4.88m.

In actuality, on 12 August 1978 the flooding level at Pakse reached 13.22m, corresponding to the highest flooding level of 1961 and to a level higher even than that of 1966. Had we organized to forecast from the flooding level of Pakse, the time one would have to prepare for the floods in South Vietnam would have been from 15 to 20 days, that is we would have had enough time to speed harvest the summer-autumn crop and move the population.

7. On the Red River and on the Thai Binh river there was no great flooding but there was relatively great early flooding in June and late flooding in October causing waterlogging in a number of localities. For that reason there was a need for repairing the sewer system and for reinforcing the base of the dikes early before the early flood season.

8. The continuous storms and floodings had caused double floodings in several rivers along the coast of North Vietnam and the high-level floodings of a number of confluents also ran into one another, which brought about record levels of flooding in a number of river branches. In this area there remains the possibility of great flooding that would top the records found heretofore. The job of planning and organizing for flood prevention, that of building flood prevention works and that of dike reinforcement must be geared therefore twoards preventing even higher flood levels.

9. The breaking of many reservoirs in the storm and flooding season of 1978 reminds us that we must pay extreme attention to protecting the safety of the water reservoirs, that we must have strict flood prevention regulations covering every stage from planning to blueprinting to building, managing and organizing the flood prevention work connected with these works. The breaking of reservoirs does not merely mean that we lose a certain volume of water as it gets drained off, it also means that the same amount of lost water that we are talking about will cause tremendous damage to the population and production centers in the lower reaches of the rivers below these works. (In the article on "Flood Prevention Lessons in the Reservoirs" we will have a chance to talk in more detail about this.)

10. These tremendous calamities have caused extensive damage to the production and property of our people, especially in the Mekong delta.

The main reason for this state of things was that the natural calamities happened to be ferocious but we must admit that some of it is also because of our shortcomings. We have yet to study exhaustively and profoundly the conditions, especially in the provinces of South Vietnam, to grasp the characteristics of each region as regards its weather and hydrological conditions so as to figure out effective prevention work. There are still relatively few studies related to the Mekong delta in the South and the results of such studies are still limited, we have yet to draw the necessary conclusions affecting the work of guiding flood prevention, the late organization of the summer-autumn rice crop, the disposition

of production and population centers at too low a level without readying rear area plans for protecting well the production and for moving the population in case of great flooding. The authorities at every echelon and the irrigation cadres have not gone through and have little experience in fighting floods, they are still subjective in their thinking, incapable of organizing the monitoring and forecasting of hydrological patterns. Thus when they were caught off guard by the early flooding they were already lost and were unable to prevent great damage.

III. To Prepare Well for the Coming Flood Prevention Work

1. We must at once proceed to gathering, investigating, complementing, analyzing, reconciling and extrapolating for the purpose of unifying the meteorological and hydrological data which will serve as the core data for use in planning, blueprinting and organizing the production and flood prevention work. We need all the more so to do well the job of gathering and analyzing the meteorological and hydrological data as well as older studies in order to pull out the necessary conclusions which will help the base units to organize their agricultural production and fight the flood in each region, especially in the case ofthe provinces of South Vietn m.

2. We must review the work of flood prevention and avoidance - that of rear area protection in the provinces of South Vietnam, we must nave plans for protecting and moving the population and for guaranteeing the harvesting of the summer-autumn crop.

3. We must organize the network for measuring wate: levels and immediately proceed to organizing the job of forecasting meteorological and hydrological changes so as to serve well the job of flood prevention in the Mekong delta. We should also proceed to devising early plans for flood prevention in South Vietnam.

4. We must have flood prevention regulations applicable to water reservoirs which are being built or which may have already been completed.

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LANG BAI MANGANESE ORE EXAMINED

Hanoi CONG NGHIEP HOA CHAT in Vietnamese No 2-3, Apr-Jun 80 pp 15-18

[Article by Engineer Tran Van Lung, the College of Mining-Geological Projects: "An Investigation of the Lang Bai Manganese Ore Deposit in Ha Tuyen Province"]

[Text] After the Chinese reactionaries destroyed the manganese ore mining and sorting facilities in Cao Bang, the search for manganese dioxide sources elsewhere for the production of batteries became a pressing and urgent matter. One of the ore deposits that drew our attention was the manganese ore deposit at Lang Bai in Ha Tuyen Province. According to geological data, the average Mn content of the ore there is 20-30 percent, lower than that required from refined manganese ore used in the manufacture of batteries.

Because of the urgent need to resume production, we conducted a survey of this ore and studied the possibility of enriching it to satisfy production requirements quickly in order to draw initial conclusions for later mining and use.

The results of an analysis of the Lang Bai manganese ore obtained in our laboratory are as follows.

I. The Characteristics of the Test Sample

In the process of our search, we divided the Lang Bai manganese mine into areas I, II and III.

Area I was more fully researched than areas II and III. The ore in area I is primarily concentrated in 11 main ore deposits. The primary minerals found in the ore are piroluzit, psilomelane, manganese oxite, iron-manganese, jacobaite and so forth. The non-ore minerals are quartz, biotite and xerixit. The mineral ores are generally found in the following kinds of structures: "filled hole" deposits, umbrella type deposits lying over other deposits, various ores mixed together in the same deposit and deposits of long veins of ore. The non-mineral ores are usually found in lattice-like deposits of degenerating waves.

Text samples were taken from many different places in the 11 main ore deposits in area I. Samples that could be selected were mixed and segregated as separate samples with granule sizes ranging from 0 to 50 millimeters.

We conducted a sieve analysis and analysed the initial ore. The results we observed are recorded in chart 1.

Results of Sieve Analysis

Granule Grade mm	Weight Kilogram	Weight Percent	Content, percent MnO_2	Content, percent Iron	Distribution, percent MnO_2	Distribution, percent Iron
-50 + 25	81.5	33.00	54.33	12.05	32.77	32.27
-25 + 12	47.0	19.00	54.33	13.39	18.86	20.64
-12 + 6	29.5	12.95	54.91	13.39	11.99	12.98
- 6 + 3	19.0	7.70	61.92	10.92	8.71	6.82
- 3 + 1	27.0	10.94	60.16	12.15	12.02	10.79
- 1 + 0.4	11.3	4.58	56.07	13.90	4.70	5.17
-0.4	31.7	12.83	46.72	10.88	10.95	11.33
Total	247.0	100.00	54.73	12.32	100	100.00

The results of the sieve analysis allowed the following observations to be made:

In all granule grades, the MnO_2 content was lower than that required for the manufacture of batteries (68 percent); therefore, it was necessary to select new ore for use in the manufacture of batteries.

The iron content of the ore was rather high and evenly distributed through all grades of granules.

II. The Results of Exploratory Selection

The results of our research showed that the primary method for selecting this ore is the gravity method. In addition, to increase the efficiency of selection, this method can be combined with the magnetic selection method, the floating selection method and various chemical processes. These processes are primarily designed to increase the quality of the pure manganese ore.

The testing portion of this exploratory project primarily focused on researching the selection of ore by the gravity method, determining which sizes of granules are most efficient for precipitation and washing and determining suitable technical parameters for raising the manganese dioxide content of the ore to meet production requirements.

On the basis of the actual selection of manganese ore in Cao Bang and the sieve analysis results in chart 1, we have found that the most manganese is freed from granules measuring -6 and -3mm, consequently, it is first of all necessary to crush the ore into granules of suitable size.

In order to determine the best granule size for selection, we selected the ore by five different methods.

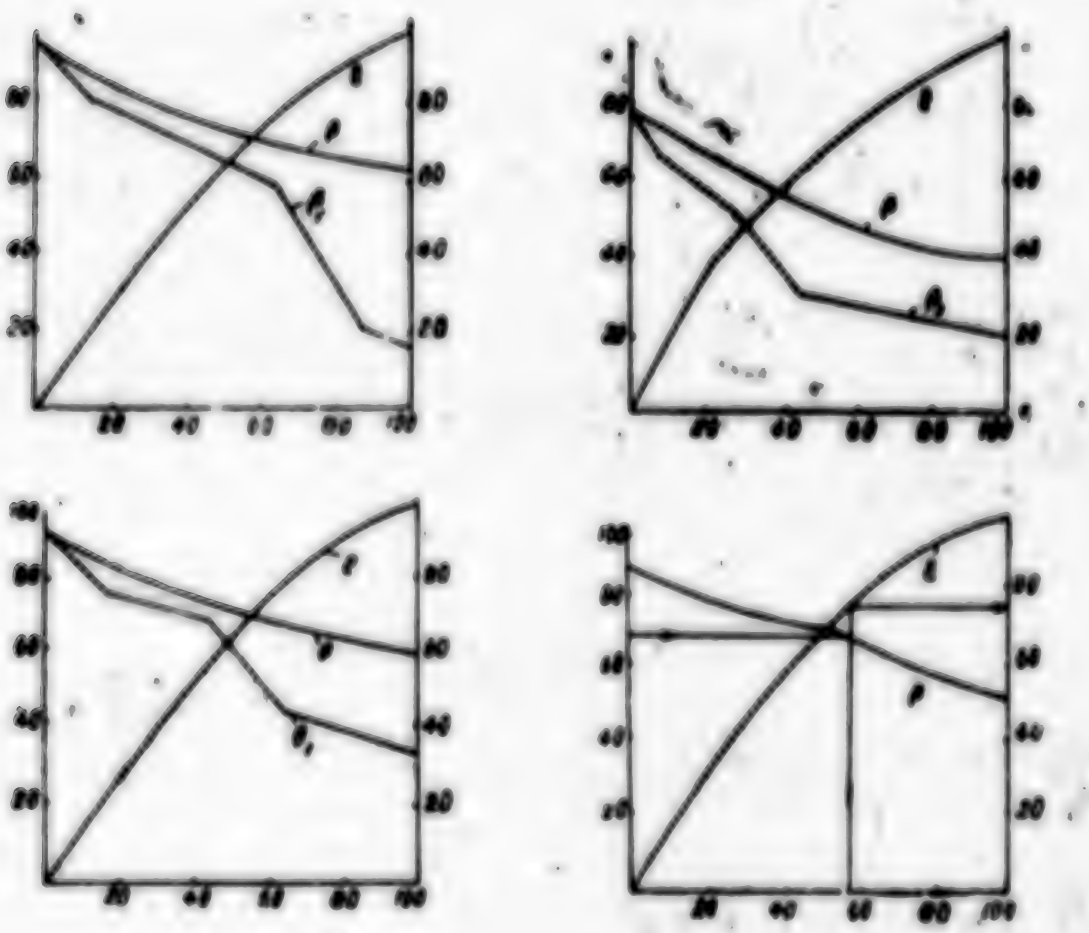
Before putting the ore into precipitation and washing equipment for selection, we conducted basic research to evaluate the ability of this ore to be selected. The basic

experiment was carried out by analysing the precipitation or lack thereof by ore in a heavy liquid, Kleritri. The results of the analysis show: this type of ore is easily selected and the number of granules that combine in the ore is not many.

The results of selection by method I are presented in chart 2: [see chart following page]

The suitable technical parameters of the precipitation machine (GM-2-66) and the washing belt(ЭОА-КЗТ) used in the experiment to meet the requirement mentioned above are as follows:

Grade 6-3 precipitate: frequency: 346 v/ph; amplitude: 13 mm;
Grade 3-1 precipitate: frequency: 346 v/ph; amplitude: 9 mm;
Grade 1-0 wash: frequency: 300 v/ph; amplitude: 12 mm; angle: 6 degrees; water density: 12 l/ph.



Symbol	Product	Weight % Compared to Product	Weight % Compared to Accumulation	MnO_2 Content % Product	MnO_2 Content % Accumulation	Iron Content %	MnO_2 Extracted % Compared to Product	MnO_2 Extracted % Compared to Accumulation
				6-3 mm Precipitate				
I	Pure Ore I	27.70	27.70	82.51	82.51	4.28	37.36	37.36
II	Pure Ore II	25.35	53.05	70.41	76.73	9.08	29.16	66.50
III	Intermediate	22.53	75.58	57.02	70.85	16.36	21.06	87.50
IV	End-of-run Ore	24.42	100.00	30.87	61.20	19.90	12.50	100.00
	Total	100.00		61.20		12.03	100.00	
				3-1 mm Precipitate				
I	Pure Ore I	33.5	33.5	77.62	77.62	4.92	46.80	43.80
II	Pure Ore II	26.5	59.0	69.33	74.56	10.23	27.07	87.95
III	Intermediate	21.0	75.0	45.80	66.51	17.85	16.23	84.18
IV	End-of-run Ore	21.1	96.1	38.01	60.25	17.69	13.54	97.72
	Dust	3.9	100.00	34.27	59.29	-	2.28	100.00
	Total	100.0		59.29		11.91	100.00	
				1-0 mm Dust				
I	Pure Ore	16.67	16.67	88.40	88.40	5.63	29.50	29.50
II	Intermediate I	21.33	38.00	52.92	68.15	12.86	28.78	58.28
III	Intermediate II	11.33	49.33	31.66	53.61	-	9.15	67.43
IV	End-of-run Ore	50.67	100.00	25.20	30.22	-	32.57	100.00
	Total	100.00		30.22			100.00	

On the basis of selection results, we drew graphs on the precipitation and wash properties of each grade of granule and a graph on the total precipitate and wash properties of ore crushed to 6mm (see figures 2, 3, 4 and 5). On the basis of the requirements of pure manganese ore and the total precipitate and wash graph (figure 5), we determined the final selection norm of this plan. The same procedures was applied to the other plans in order to determine their final selection norms.

The final results of selection by the various methods are shown in chart 3.

Product	Norm	Method I	Method II	Method III	Method IV	Method V
Pure ore	MnO_2 content, %	68	68	68	68	68
	Iron content, %	9.54	12.9	8.31	10	11.3
	MnO_2 extracted, %	76	75	62.8	54	18.4
End of run ore	MnO_2 content, %	30.6	32.4	37.2	41.0	49.0
	Iron content, %	16.15	13.2	16.02	13.9	13.4
	MnO_2 extracted, %	24.00	25.0	37.2	46	81.6

The data in chart 3 show that method I and method II reclaimed the highest amounts of MnO_2 (76 and 75 percent). Method V reclaimed the least (18.4 percent).

A comparison of method I and method II shows that the quality of the pure ore under method I is higher because its iron content is only 9.54 percent; under method II, the iron content is 12.9 percent. Therefore, in terms of both the quality of ore and the actual amount of ore extracted, the efficiency of selection is higher using method I than using the other methods and can be considered suitable for selecting Lang Bai manganese ore.

III. Evaluating the Quality of the Batteries Manufactured from the Manganese Ore After Selection

The majority of the pure manganese ore after selection by the methods mentioned above was researched down to the size of -0.16mm and then used in the production of batteries. The results showed that the electrical discharge capacity of batteries ranged from 420 minutes to 510 minutes depending upon the quality of each batch of pure ore (MnO_2 content ranging from a low of 62.15 percent to a high of 82.51 percent).

We also mixed various types of pure ore of different granule sizes with intermediary products under each method in order to achieve a final pure ore with an MnO_2 content of approximately 68 percent and then used this ore to make batteries, with a resulting average electrical discharge time of more than 440 minutes.

Conclusions:

On the basis of the results mentioned above, we have reached the following conclusions:

1. Lang Bai manganese ore is a type that can be easily selected; by means of the precipitation and washing methods, an MnO_2 content of 52 to more than 68 percent can be achieved. The MnO_2 extracted is over 70 percent.

2. The use of method I to select this ore provides the extraction of pure ore of the best quality and the highest percentage of MnO_2 compared to the other methods.

3. The batteries manufactured from selected manganese ore have an average electrical discharge time of over 440 minutes.

These are only the results of exploratory selection. When selection has been fully researched and an efficient selection program has been established, the actual amount of MnO_2 extracted will surely be much higher.

In our opinion, in order to make efficient use of the manganese dioxide ore in the Lang Bai area of Ha Tuyen Province, the continued research of this ore should take the following main direction:

1. We should further research the ability of ore samples taken from different depths to be selected in order to evaluate the ability to be selected of all of the ore in this area in a more precise manner.

2. We should establish an efficient selection program in order to extract manganese ore that meets the requirements of battery production.

3. We should develop effective measures for reducing the impurities that adversely affect the quality of batteries, primarily iron, copper, cobalt and nickel. According to analytical data, the content of these impurities is much higher compared to Cao Bang manganese ore.

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HEAVY INDUSTRY AND CONSTRUCTION

DEVELOPMENT OF EASTERN NAM BO RUBBER PLANTATIONS DISCUSSED

Hanoi NHAN DAN in Vietnamese 4 May 81 p 2

[Article by Do Van Nguyen, director of the General Rubber Plantation Department: "Rubber Plantation Development in Eastern Nam Bo"]

[Text] Eastern Nam Bo is a vast region with a thin population which has increased noticeably over the past few years. Belonging to Dong Nai, Song Be and Tay Ninh Provinces, this fertile land has an acre of nearly 2.4 million hectares including nearly a half-million hectares of red basalt and grey soil. The fact that this land is vast and fertile and that the weather is fair and rather cool, with a rare incidence of storms and an absence of hoarfrost, makes it suitable for the growing of long-term industrial crops such as rubber, coffee and many others. This potential was not exploited under the former regime. For nearly 70 years (from 1906 to 1975), rubber trees—though constituting a strong economic potential—were not developed markedly except for more than 100,000 hectares the production of which was monopolized by foreign companies. The rubber plantations were severely devastated in wartime.

After the liberation of South Vietnam, our party and state made the following assessment: "In the process of socialist construction, Eastern Nam Bo will play a very important strategic role in the economy and national defense of the whole country. This precious region requires the presence of millions of laborers more to build the economy and to turn millions of hectares of farm and forest land into a source of material wealth to make the local people's life happy and civilized and simultaneously to greatly contribute to the nationwide socialist construction."

In pursuance of this policy, the rubber plantation sector has over the past few years restored production gradually, provided employment for workers, protected and expanded production, created a source of export goods and moved forward to shape up a large-scale socialist rubber production sector.

Results and Shortcomings

Beginning with the plantations and processing factories taken over from the former rubber companies, the sector has fully restored production at the Dong Nai Rubber Corporation and the Tay Ninh State Rubber Production Installation, simultaneously performed production and restoration at the Dau Tieng, Loc Ninh and Phuoc Binh State Farms and built a number of new processing factories such as Quan Loi, Thuan Loi

and Cam My. These efforts have made it possible in the past 5 years to exploit and process nearly 200,000 tons of dried rubber latex for export and to supply raw materials to the domestic processing industry.

Along with the satisfactory exploitation of the existing plantation areas, in the past five years the sector has opened new lands and created new plantations on nearly 20,000 hectares of which more than half has been cultivated by the Dong Nai Rubber Corporation. The state installations in Tay Ninh, Loc Ninh and Dau Tieng have organized new plantations with the objective of rapidly increasing the newly cultivated area to gradually replace the area of old plantations which were seriously ravaged by war.

Beside growing new plantations, the sector has actively restored and built up the Rubber Research Institute as required by the sector's development and has linked this task with the activities of state farms and experimental nurseries. The institute has studied, hybridized, selected, propagated and produced strains and supplied them to production installations and successfully carried out research on a number of new high-yielding strains. To date, the entire sector possesses over 200 strains including some which yield 35 quintals per hectare (conclusive reports having not yet been made on the yield of the newly imported strains which are being propagated on Vietnamese soil). As for the strains on which conclusions have been drawn, they yield 27 quintals [per hectare] and those with the lowest yield produce 9 or 10 quintals.

The rubber sector has reallocated labor to specialized cultivation zones, thus gradually reducing the mixing of crops and residential areas, increasing the labor productivity of workers, gradually improving the life of cadres and manual and office workers and maintaining product quality.

Visitors to the Xa Bang, Cu Bi and Cam Duong state farms dependent of the Dong Nai Rubber Corporation have noticed rapid changes. Three state farms with an area of more than 8,000 hectares and thousands of laborers have emerged from this region which was still a wild mountainous one covered with forest 4 or 5 years ago. A rather sufficient number of collective welfare projects have been built including schools, child-care centers, kindergartens, dispensaries, warehouses and shops with an internal network of communication roads to adequately serve production.

Production expansion is a major requirement, a task to be done not only for the sake of the next few years but also in view of the future. It is one of the strategic objectives of the state which we will have to strenuously achieve at all costs by taking specific measures. Many corporations have gained experiences in motivating and organizing the mass movement to exercise the right to collective ownership in the field of new lands opening and new zones construction. Good development has been obtained in areas where tight leadership has been exercised and where the managerial science and the technique of opening new lands, starting new plantations, exploitation and processing of products have been inherited from the past and selected. The organization, motivation and implementation of a good policy have lent an in-depth dimension to the task of expanding the cultivated area so that the limited capital invested by the state has had a quick effect. But not everyone has realized that while the land and labor potential is great, the state capacities in matters of capital, equipment and material supplies are limited. It is, therefore, necessary to bring into full play the revolutionary zeal of cadres and workers to

overcome difficulties, to exploit the existing plantations and to rapidly expand the new plantation area. The tencency to rely merely on the capital and materials supplied by the state must be avoided.

On the other hand, a number of shortcomings are greatly influencing the rate of production development. First and foremost is the organization of production. A number of corporations have not yet drawn up plans nor has the planning task of state farms been ratified. The managerial apparatus is still weak and insufficient and even inexistent at certain state farms and in a number of corporations and installations which serve production. This is the reason for the failure so far to build material-technical bases such as water conservancy works and communication means, to open new lands, to make preparations for the setting up of nurseries and to build public welfare works such as hospitals, schools, shops and so forth. Though many years have elapsed, these large installations still have to work without planning and the state still does not know where to invest and concentrate capital to exploit all the plantations. The percentage of surviving trees an the areas newly cultivated in the past few years has been low and the labor force has been not only insufficient but also irrationally organized and employed at many installations. Meanwhile, the life of cadres and workers is still faced with numerous difficulties.

A Number of Experiences

Following are some experiences drawn from actual facts about the leadership provided in the past years:

1. In Eastern Nam Bo, in general, and in the provinces od Dong Nai, Song Be and Tay Ninh, in particular, there are vast stretches of arable land which have not yet been exploited. Along with intensive cultivation and in-depth investments aimed at best exploiting the existing areas, another important task is to expand the new plantation area. If consultations are held and identity of views achieved between the sector and the [local] territories and between the central and local levels, everyone af them will consider it its duty to strive for a great undertaking for the benefit of the entire country and each locality, thereby bringing the people's strength into play.

2. It is necessary to firmly follow the motto about the association of manual work with mechanization in opening new lands and starting new plantations. By applying this motto, many installations have been able to organize the opening of new lands by manual labor to preserve soil fertility and to make trees grow rapidly. Mechanical means have been used only to build roads and to prevent erosion.

3. After reviewing the actual situation of production and management by the Dong Nai Rubber Corporation and some other installations, we have become more aware of the need to flexibly apply the policy of associating the three types of interest--state interest, enterprises' interests and workers' interests--in order to encourage state farms and workers to enthusiastically carry out production and increase labor productivity.

A correct association of these three interests will create a strong motive power to arouse eagerness and creativity among all laborers and in other economic activities. As a result, many units will have additional sources of income and be able to implement the "use short-term interets to promote long-term ones" slogan.

4. It is essential to carry out zoning, survey and planning well in advance. After zoning, it is necessary to determine firm steps to be taken, to associate short-term interests with long-term ones, manual labor with mechanical means, rudimentary tools with modern ones and large scales with small ones, and to concentrate efforts on principal points to complete major works one by one in each area in order to gradually perfect plantations, to turn them into strong agroindustrial economic zones and to insure a stable and civilized life for the laboring people.

Some Problems Requiring Solution

To date, the land area suitable for rubber plantation has been determined rather clearly for Eastern Nam Bo, in general, and for Dong Nai, Song Be and Tay Ninh Provinces, in particular. For example, there are over 300,000 hectares of fairly good red and grey soil in the Phuoc Long, Binh Long, Dong Phu, Loc Ninh and Ben Cat regions in Song Be Province. But what must be done to gradually and rapidly exploit their potential? What must be done to quickly overcome the sector's shortcomings, to improve the quality of development and to obtain higher effectiveness?

The immediate task for all units, state farms and processing enterprises belonging to the sector is to focus on improving and strengthening management and on overcoming the remaining shortcomings to make it possible to use the material-technical bases, labor, materials and equipment available to the best advantage and highest efficiency in expanding the planted area.

Expanding the cultivated area is a manifold task the successful execution of which requires the contribution of the responsible sectors and localities. The present small-scale state farms and corporations may gradually expand the new plantation area by using the existing organizational and managerial experiences and by relying on the promulgated policies. Concerning the large-scale new plantation areas, this problem must be solved by taking into account the interests of the national economy as a whole. To say so is to point out that the sector must not only pay attention to using its own means to the highest efficiency and to building production and business installations of its own. Though appearing to be legitimate at first glance, such a trend will not suit the requirements of the task of building new rubber plantation zones. To be able to shape up, these zones demand that not only the business activities but also the building of an infrastructure be carried out satisfactorily. With their local interests in view (but absolutely not out of parochialism), the various localities may want to take advantage of the development of rubber plantations to solve the problems of food, housing, traveling, education, diseases and so forth for the benefit of their entire regions. Though legitimate, this wish requires for its fulfillment that additional expenditures be incurred to build facilities to provide a very broad service. Because of the close relationships between the centrally-run and local economies, it is impossible to develop the local economy apart from the centrally-run one. To be able to develop strongly, the centrally-run economy requires the support of the local economy. Failure to link the centrally-run economy to the local one will impair the development of the rubber plantation sector and zones and also of both economies. For this reason, there must be close coordination between the sector and local territories and between the central level and the local one in motivating the people to join the state in working together to build the infrastructure more rapidly and, at the same time, to reduce the need for the state to make very great investments.

It is necessary to step up the building of material-technical bases and the improvement of managerial and technical measures, with attention being paid first to the plant strains. To heighten the quality of new plantations and to enable them to rapidly achieve an average yield of more than 20 quintals per hectares with an exploitation cycle of over 20 years, it is necessary to boldly improve the present allocation of varieties and to simultaneously improve the technical measures about cultivation, tending, fertilization and intensive cultivation right at the beginning. In the subsequent years, attention will be paid first to the varieties suitable for regional conditions. The most effective varieties will be those which offer a high and early yield, which grow up vigorously and which can stand winds, drought and diseases. Intensive cultivation--which is aimed at shortening the capital construction period from 7 to 5 or 6 years (including 1 year for hybridization), which was formerly carried out by foreign companies and which has been done with result over the past 5 years by the Dong Nai Rubber Corporation in conjunction with the Rubber Research Institute--must be gradually implemented to boost the production of the main crop.

Living conditions must be organized according to a better pattern. To ensure labor reproduction, it is basically important to properly organize the material and moral life of cadres, workers and people in the new regions. The immediate task is to step up production by rubber corporations and state-operated installations. Efforts must be exerted to carry out at all costs the growing of companion crops throughout the new plantation area and the area still requiring tending in the first 3 years in order to substantially solve the grain and food problem on the spot. The on-the-spot sources of raw materials and supplies must be used most satisfactorily and rationally to build houses and public welfare facilities. A public health, prophylactic and therapeutic network must be well organized and schools built.

To carry out the above-mentioned mission, a decisive factor in the task toward cadres is to build up party organizations and to train a contingent of cadres capable of fulfilling their duties. Moreover, since the rubber sector is still a very new one which produces material goods, it is necessary to move forward to intensify the organizational task and the task toward cadres in order to satisfactorily solve a series of problems relating to the arrangement of the managerial apparatus, the formulation of systems and bylaws and the determination of the functions and competence of various units so as to ensure fulfillment of politico-economic tasks. Experiences have demonstrated that, if well-organized, units and corporations will become more qualified to satisfactorily organize labor and management, to create high labor productivity and to achieve great economic effects. A review of the present situation in the sector shows that there are many manual and office workers who have been employed with the rubber sector for 20 to 30 years and who are highly experienced in opening new lands, growing new plantations and exploiting and processing rubber and that there are also many cadres who were originally workers who joined the party and fought for more than 30 years and who have now come here to lead and manage rubber production. The contingent of cadres must be quantitatively proficient and must not only have a great revolutionary zeal but also be able to grasp modern science. It is, therefore, necessary to intensify training and advanced training under various forms. Since the rubber sector alone cannot accomplish this task within a short period of time, it needs the assistance of other sectors to be able to fulfill its mission.

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CONSTRUCTION OF DAU TIENG WATER CONSERVANCY PROJECT UNDER WAY

Hanoi NHAN DAN in Vietnamese 1 May 81 p 3

[Article by Nguyen Minh Sang, of the Dau Tieng Construction Committee in Tay Ninh: "The Dau Tieng Water Conservancy Network--a Major Project"]

[Text] Construction of the Dau Tieng water conservancy network is the largest water conservancy project in our country. The center of the project will be built on the Saigon River near Dau Tieng Town and will consist of a principal dam with a length of 1,100 meters and a height of 28.5 meters at its apex to block the Saigon River and of an auxiliary dam which will adjoin the principal one and will be 29-km long and 8-meter high and made of homogeneous earth, with its upstream face covered with stone, concrete slabs and wave breaking walls.

On the left, there will be a reinforced concrete overflow-drainage dam having six 10-meter wide steel-made arched gates with a planned flood dispersing capacity of 2,000 cubic meters per second. Beneath and at the left of the principal dam, there will be a stream directing and bottom draining sluice with a 3 meter wide and 4-meter high gate to be opened and shut by means of an electric motor for the purpose of directing the stream during the construction process and draining the bottom to ensure a normal water current for the Saigon River in the dry season and, when necessary, to back up the overflow dam during the flood season. Sluice No 1 below the principal dam will draw in water and direct it into the easternmost canal through three steel gates, each 3-meter wide and 5 meter high to be opened and shut electrically, with a planned water current of 90 cubic meters per second. Situated below the auxiliary dam in the Suoi Da area, sluice No 2 will draw in water and direct it into the westernmost canal with a planned water current of 80 cubic meters per second. Six large pump stations will draw up water to irrigate the high-level land. There will be hundreds of kilometers of tributary canals and thousands of bridges and siphonal sluices on the canals.

Extending over an area of 27,000 hectares, the reservoir will have a capacity of 1,450 million cubic meters of water to irrigate 172,000 hectares of farmland (including 105,000 hectares of sugarcane) belonging to the districts of Tan Bien, Chau Thanh, Duong Minh Chau, Ben Cau, Go Dau and Trang Bang and the city of Tay Ninh. The reservoir will be able to feed tens of billions of fish.

Construction started at the beginning of this year, with the hub of the project to be completed in 1984 and the tributary canals in 1986. This is a major project for

which our technical cadres and workers have been carrying out survey, planning and construction. Capital has been borrowed from the World Bank to buy materials and construction equipment. Construction of the hub of the project and principal canals is assumed by the Joint Enterprise for Water Conservancy Construction in Zone 4. Tay Ninh Province is in charge of the canal network, with the participation of various sectors such as communications and transportation, marine and forestry products, building, electricity, coal and so forth.

Preparations for construction were made in 1980. The work site built 40 kms of construction roads, a permanent bridge with a 75-ton loading capacity and 30,000 square meters of prefabricated housing; commissioned 2 stone grinder-winnower stations wih a capacity of 75 and 200 tons per hour respectively; assembled and commissioned 2 concrete mixer stations with a capacity of 15 and 45 cubic meters per hour respectively; received and commissioned 242 construction machines; excavated 6 million tons of earth and piled up 2.6 million tons of earth; completed 7 kms of main canals and 11 kms of tributary dam; built 52,000 cubic meters of pavement and settled 4,000 cubic meters of concrete. Technical cadres and workers made hundreds of technical innovations and improvements in the maintenance of vehicles and machines and in measures to be taken in carrying out construction, which resulted in a saving of tens of millions of dong. Cadres of the Dau Tieng Construction Committee took the initiative in building a permanent concrete bridge instead of two pontoon ones and also in building a ferry to effectively serve the construction task during the flood season and to connect with road 13 which will cross the river in the future. The cadres and workers working at the construction site are young people who have quickly become accustomed to skillfully using and properly maintaining numerous modern machines such as stone grinder-winnowers each with a capacity of 200 tons per hour, automatic electronic machines, road rollers, bulldozers and excavators automatically operated by electronic microwave circuits.

Throughout the work site, there is a concerted and extensive emulation movement both at the center of the project and in the tributary canals area to greet May Day and to score achievements to honor the Fifth VCP Congress.

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ASPHALT SHORTAGE CAUSES NEW LOOK AT ROAD SURFACING MATERIALS

Hanoi KHOA HOC KY THUAT GIAO THONG VAN TAI in Vietnamese No 6, Nov-Dec 80 pp 8-9

[Article by Nguyen Tran Tuan, the Highway Management Department: "Some Thoughts on Road Surfaces in View of the Present Shortage of Asphalt"]

[Excerpt] Since the North was liberated, the socialist economy has developed and the communications system has also developed rapidly. By the end of the 1970's vehicular traffic on a number of main roads, such as 1A, 3A and 5A, has risen to 2,000-3,000 vehicles per day. The highway sector has had to construct additional roads and upgrade and improve old road surfaces by means of ground stone impregnated with asphalt, which is a simple, high quality road surface, and asphalt concrete, another high quality road surface. Along with this, we have still constructed crushed stone and graded secondary roads. However, these types of roads have gradually been abandoned because their construction involves strict requirements and much manual labor and their use requires constant maintenance. This is not to mention the fact that, prior to 1972, we encountered no problems with the supply of bitumen asphalt; however, since 1972, the quantity of asphalt imported has had to be limited and has gradually declined. In 1980, our sector received one-third to 1/3.5 as much asphalt as it did during the years from 1970 to 1972 and only one-fifth as much as it needed. The review of 1979 showed that as much as one-fourth of the roads managed by the central level had deteriorated due primarily to a lack of asphalt.

As regards the shortage of asphalt, the issue of economizing on its use is of foremost importance. In the recent past and at present, both specialized and non-specialized research agencies under our ministry have been and are researching various types of road surfacing materials that economize on the use of asphalt or require no asphalt at all. The various adhesives under research that will temporarily replace asphalt and be combined with stone in road surfaces are cement mortar, "ba ta"-lime mortar-puzolan, a lime-clay mixture, a sand-liquid glass mortar and so forth; some times have been successfully researched and some have been given permission to be incorporated in official construction regulations (such as ground stone combined with cement mortar and ground stone combined with "ca ta" mortar). However, as regards the adhesives mentioned above, none can be used on a universal, widely developed basis. We can only use them under certain specific conditions and circumstances. And, if the conditions exist for their use on main roads, we absolutely must use asphalt in combination with them as the upper layer of the road surface in order to correct the "semi-hard" nature of working structures that are not truly suited to the nature of soft road surfaces.

CONFERENCE REVIEWS 1980 PERFORMANCE OF RAILROAD SECTOR

Hanoi GIAO THONG VAN TAI in Vietnamese 30 Mar 81 pp 1, 4

[Article by P.V.: "Railroad Sector Struggles To Raise Its Transporting Capacity"]

[Text] The railroad sector recently held a conference to review its work in 1980 and to recommend the guidelines, tasks and major measures aimed at better exploiting its potential and striving to raise its transporting capacity in 1981.

In 1980, it fulfilled only 80.2 percent of its plan in terms of tonnage and 83.6 percent in terms of tonnage-kilometer, the latter equal to 92.2 percent of the same in 1979. The economic and technical norms fulfilled were also lower than those in 1979. The reason for that was due to many difficulties, both objective and subjective; there was a shortage, sometimes to the point of being very tense, of coal and oil for ships, electric power for industrial production and materials and parts for repairing service and capital construction. The sources of goods, as well as the types of goods, were far from stable. In 1980 particularly, there were many rainstorms and floods that seriously threatened many railroad lines. The tropical low-pressure system at the end of the year caused an interruption of service on 150 kilometers of the Thong Nhat railroad line. In addition to the above-mentioned difficulties, many localities encountered a lot of difficulties in grain and food supply at different times. As prices in the market went up, they affected the living and work of cadres, workers and civil servants. As the sector had only recently adopted decentralization of organization and leadership, which were not yet stabilized, there was a decrease in the effectiveness of both leadership and management.

However, in 1980 the railroad sector as a whole made a lot of effort to concentrate leadership and every means available on carrying away the goods that had arrived from abroad at the harbor. In Haiphong Harbor alone, it carried away 531,400 tons. It guaranteed on a permanent basis to satisfy every request for trains made by the harbor. The western railroad line, which had been destroyed by the Beijing expansionists and still encountered many difficulties, for the first

time was able to carry 13,800 tons of apatite in time for the southern provinces to use, as the railroad sector still tried to ensure good transportation of apatite. The transportation of goods between the north and the south was always stepped up. Especially the transportation needs of the army, the needs at the border and the transportation of goods for the two fraternal countries of Laos and Kampuchea were all fulfilled satisfactorily. Such unexpected needs as transporting materials for the fight against storms and floods, grain and gunnysacks for the purchase of grain, coal for power plants, materials and equipment for oil drills, etc. were all brilliantly fulfilled. Overcoming the unprecedented floods that affected the Lao Cai and Thong Nhat lines proved the potential capacity and great efforts of the railroad sector in the past year.

In spite of a number of achievements, as compared with the 3 recent years 1980 was the year that had the lowest volume of transported goods. The conference set forth severe self-criticisms and thoroughly analysed many shortcomings and weaknesses. The work in connection with commercial activities was still weak. The coordination between railroad stations and goods owners in connection with loading, unloading and carrying away was not strict enough, with cars staying at one place too long or many cars in a train being empty. Operating activities were not very effective; commanding train runs showed a lack of quick response. As the sector did not fully know the flow and sources of goods, as well as the state of locomotives and cars, there was a lack of rational operations and high effectiveness. The procedures for reporting on cars in railroad stations were not seriously carried out; as a result, there was the case of 40 cars being forgotten for a while and left unused. Passenger services did show some effort at improvement, but it was obvious only in the fast trains, the Thong Nhat trains; as to the market and local trains, the cars were old, shabby and unsanitary. At many stations, many trains did not have electricity and water. Passengers still found it hard to buy tickets, to go through the gates and to get aboard the trains. The attitude of a number of attendants on the trains and in the stations still was overbearing as they shouted at passengers. Departures and arrivals were in most cases late. Because of a failure to seriously observe the regulations and rules, the number of accidents in 1980 was 24.4 percent higher than that in 1979.

On the basis of a full assessment of both achievements and failures, the guidelines and tasks of the railroad sector in 1981 are as follows: With the present force, to reorganize and improve the method of management, to perfect organization, to renew the work procedures and to practice strict thrift in production so as to exploit the sector's potential as the primary interest, and at the same time to continue to make correct in-depth investment so as to gradually overcome the state of imbalance and lack of synchronization between the material and technical base and transportation production. To further develop the sector's strengths; to organize better the living conditions of cadres, workers and civil servants and to urge them to enthusiastically do productive and regular work in order to create a combined material and spiritual force with a new spirit, to overcome all

difficulties, to raise the capacity and safety of transportation, to improve its quality, to obtain good economic results in transportation business, to fulfill its budgetary obligation to the state and to fully carry out the 1981 plan.

To properly fulfill the 1981 transportation tasks, the conference affirmed a number of essential measures as follows:

- To continue to decentralise even more, to strengthen the power and responsibilities and to improve the organization of wards and to let the latter and railroad stations, as well as trains, have real authority and the capacity to fulfill the assigned tasks.

- To move toward achieving planning for stations accommodating goods, reducing the number of stations doing loading and unloading work from 107 down to 72.

- To concentrate efforts on overcoming the current weakness, namely, the pulling capacity of locomotives, by rearranging the plan for using locomotives in order to save draft power along with strengthening the repairs of locomotives.

- To strengthen the management, use and protection of cars; to fight the tendency to leave many cars idle and at the same time to create favorable conditions for car inspection stations to be capable of repairing cars on the track, thus reducing the number of cars being sent to shops.

- Capital construction and major repair units must concentrate on completing early and fully any work that serves transportation.

- Wards and sections must assume strict leadership over maintenance and repair of bridges and roads and the signal communication network, which must be considered a permanent task of strategic character.

- Along with strengthening the teaching of ideological concept and sense of responsibility, all chiefs like station directors and trainmasters must fully carry out safety plans in all train runs.

- To strive to improve the quality of passenger service and to improve and strengthen leadership over transportation at all levels, from the general department to chiefs of wards and station directors.

With a new determination and subjective efforts, and knowing how to exploit all of its potential capabilities, the railroad sector has the ability to totally carry out the 1981 state plan.

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CONSTRUCTION OF NEW DEEP-WATER PORT SUGGESTED

Hanoi KHOA HOC KY THUAT GIAO THONG VAN TAI in Vietnamese No 6, Nov-Dec 80 pp 1-4

[Article by Vu Manh Xung, the Transportation Department of the Ministry of Communications and Transportation: "Some Thoughts on the Scale and Organization of Production at the Haiphong Port"]

[Text] Editorial Note: Developing the seaports, in general, and improving organization and management in order to increase the handling capacity of the port of Haiphong, in particular, are a very important and pressing problem of the communications and transportation sector at this time. This article by Vu Manh Xung presents a number of observations and viewpoints concerning this matter. This article is, of course, limited to the scope of research conducted by Vu Manh Xung himself. It is the hope of the editorial board that comrades performing economic and technical work in the area of ocean transportation also write articles expressing opinions to be discussed and debated if they hold different viewpoints and opinions so that light can be shed on this important issue of the sector, thereby providing the ministry and the responsible agencies with many opinions to examine.

The port of Haipong is the most important center of the Ministry of Communications and Transportation, is the vital link in economic circulation, especially in foreign relations.

A. Material and Technical Bases:

I. The present situation:

When talking about ports, we must first talk about the classes of ships that they can accomodate. This is a universal standard. Actually, the ship channel of the port of Haiphong can only accomodate ships of 7,000 DWT on a regular basis; to accomodate larger ships, the channel must be deepened (by approximately 6.7 meters). However, the bottom of the Haiphong-Ham Trieu channel consists of fine silt; the deeper the channel is dug, the more rapidly it fills in (the channel is completely filled in after only one storm), consequently, the port of Haiphong is not able to meet ocean transport needs at this time.

The port of Haiphong, if its channel is maintained at design depth, is only the equivalent of the small ports in the world at this time, such as the ports of

Singapore, Penang (Malaysia), Durres (Albania), Hung Nam (South Korea), Tomatove (Madagascar) and so forth.

The economy of North Vietnam cannot use Haiphong as the main seaport because the natural conditions of the port of Haiphong make it impossible to meet maritime transportation requirements and the need to broaden foreign economic relations. For this reason, it is of pressing importance that we research and construct another general purpose port.

II. The possibilities for expanding the port.

Cai Lan, a 3 kilometer strip of shoreline lying to the west of Vinh Bai, has all of the natural conditions needed to build a large, deep-water port. In the bay and the channel, there are either no silt deposits or only insignificant deposits. The area affords natural protection from the elements. It is an ideal place to build a port; better conditions for a mainland deep-water port exist nowhere else, not even in the world.

After the Cai Lan port has been established, a large commercial port with many general purpose and special purpose cargo handling areas will develop within a radius of 50 kilometers or, stated in different terms, will develop along a distance of 90 kilometers from Haiphong through Cai Lan and Hon Gai to Cam Pha; this port can be named the Haiphong-Quang Ninh port. Ship docking facilities could be located in the same body of water. Today, there are many very large seaports in the world. For example, the port of Marseille in France, which is the largest seaport in southern Europe, was established by merging the various seaports within the bays of Marseille, Lavera, Caronta, and Port Saint Louis du Rhone and has 213 berths (under development); at wharves, the water ranges from 7.93 to 24 meters in depth. Another example is the port of Antwerp in Belgium which extends for 89 kilometers along the Scheldt River; each year, 19,000 ships dock at the port; this port, which is the center of 300 sea lanes, is served by 12 railroad lines and 7 main roads designated "E" and can easily accomodate ships that draw 12.6 meters of water.

B. Port Management

I would like to limit my remarks to the organization of production instead of discussing every aspect of management.

The production task of the port is to load and unload cargo; cargo handling, in turn, is partially related to the sea and ships and partially not related to the sea, such as arranging and transferring cargo for temporary storage within the port. The amount of cargo handled is the output of the port and determines the amount of labor, equipment and materials that are needed; the amount of cargo (tons) entering and leaving the port is the basis for computing the output norm of the port, not the actual output norm of the port itself.

The objective of the port is to load and unload ships rapidly; this is what attracts ocean vessels to seaports, is the source of income in foreign currency of the port

and, at the same time, is the firm basis for completing the highest political task of the port well, namely, insuring that the foreign economic relations of the state are broadened. Rapidly unloading and handling imports are a measure, not an objective and the two should not be confused.

I. The customers and scope of operation of the port.

1. The customers of the port.

The port is a production-cargo handling enterprise that supports export-import activities. The warehouses and storage yards of the port are only places for the temporary storage of imported cargo that cannot be promptly transported from the port and cargo being prepared for exportation. The port is not a general warehouse to be used to store cargo or distribute supplies and commodities of the state or any other economic sector as is the practice now. This is the reason why cargo is backed up in port storage yards.

The port only has two customers: the foreign trade sector, which implements the export-import plans of the state, and, on the other side, ocean ships and transporters; if the port would recognise only these two customers and operate on this basis, it would greatly simplify shipping and receiving, the arranging of cargo and the settlement of accounts. At present, the port of Haiphong, in addition to the two customers mentioned above, has about 400 other large and small customers within the country; as time passes, the number of customers will increase and every additional project and enterprise that has ties to the foreign trade sector will be a prospective customer of the port. These customers use the warehouses and storage yards within the port and ship cargo to and receive cargo from one another within the port; this practice also takes place between the foreign trade sector and its customers, the domestic economic sectors and units, and between these economic units and the port. This three-party form of shipping and receiving has caused shipping and receiving and the arrangement of cargo within the warehouses and storage yards of the port by bill of lading and by cargo lot owner and the settlement of accounts with ships to be extremely confusing and complex, beyond the point of being unravelled.

2. The scope of port operations:

The port manages the body of water and the shoreline area within its fences. Nothing could be more unreasonable than for the port to have to extend its operations beyond its fences, even rather far away, to serve as a warehouse for sectors that have cargo. The sectors that have imported goods assume virtually no responsibility for and are not compelled to rapidly remove their cargo from the storage yards of the port. When cargo is left in the port, the port naturally becomes the party responsible for transporting imports from the port and organising rear service warehouses and storage yards outside the port; therefore, the port must pay transportation charges to the transport sector and gains the reputation of transporting cargo for other units.

II. The organization of cargo handling operations.

This is the most important element in the organisation of production of a port. A high quality organisation of cargo handling insures the continuous and safe handling

of cargo with the lowest possible expenditure of labor, as generally expressed in reducing the number of times cargo is handled; a specific plan must be adopted for determining the specific amount of cargo of each specific ship and thoroughly preparing cargo handling procedures and forces for each specific ship.

1. Cargo handling at ship bridges and floating piers.

Cargo handling can be carried out at ship bridges or floating piers (which is the practice at ports that lack the conditions needed to establish shoreline deep-water piers). Cargo handling at ship bridges is the best practice because it enables the coordination of the handling of cargo with many modes of rail, water and land transportation; at the same time, it is possible to employ many different cargo handling procedures in order to expedite the movement of ships.

2. The direct transfer of cargo is a good practice but it is not necessarily the best policy.

Direct transfer is a good measure, one that we must endeavor to use as much as possible, because the coefficient of cargo handling is only one; cargo need not be stored in port warehouses or storage yards or taken from the port to the rear area. However, direct transfer cannot be considered the best policy. Because, it might conflict with the need to expedite the movement of ships, which is the highest objective of the port. To achieve this objective, it sometimes becomes necessary to handle cargo a relatively large number of times and necessary to store cargo in port warehouses and storage yards, even temporarily store cargo on the ship's bridge. Unloading cargo from a ship and transferring it to a storage yard (and vice versa) of a factory or an export-import warehouse of an owner of cargo outside the boundaries of the port are also a good measure, one which avoids or reduces the storage of cargo at forward warehouses and storage yards within the port and makes full use of rear area warehouses and storage yards beyond the boundaries of the port.

3. Clearing the surface area of the port must be conducted on a very routine basis. To begin with, it is necessary to try to handle cargo without using the piers of the port by utilising direct transfer and then, if necessary, rapidly transporting cargo for temporary storage outside the port; in addition, cargo remaining within the port can be rearranged.

III. Strengthening and streamling cargo handling lines

1. There are many cargo handling lines per ship: to handle the cargo of one ship, it is both possible and necessary to open many cargo handling ramps; at the same time, each ramp is a cargo handling line and each line handles cargo by a specific method. This method can be: ship-ship, barge-ship-railroad car or truck, ship-warehouse or storage yard or ship-pier-warehouse or storage yard, ship-barge-warehouse or storage yard or ship-barge-pier-warehouse or storage yard, with cargo being handled one, two, three or four times. Each time 1 ton of cargo is handled it is computed as one handled ton.

2. Each cargo handling line is a section, each ship is a cargo handling unit.

Each cargo handling line or process employs a certain amount of labor and equipment, each line is a section and the entire ship is a production unit. The members of the section load, transfer and unload cargo and are closely linked to one another by means of the final product, that is, the cargo that has been delivered to the final point in the cargo handling process. The same applies to the entire unit, that is, how much cargo is loaded or unloaded from a ship in a given amount of time. Although they employ different techniques, all of them are stevedores using different means of cargo handling for the same product and piecework wages absolutely must be paid to the entire team and unit with attention to personal technical skills.

3. In the immediate future, the port of Haiphong must expand the handling of cargo on floating piers.

In the present situation, the port of Haiphong faces export and import requirements that far exceed its capabilities. The port lacks many deep-water piers and wharves, consequently, it must expand the handling of cargo on floating piers. The ship-barge-warehouse and storage yard cargo handling process thus becomes important (besides the ship to ship or barge direct transfer cargo handling process, of which we must make as much use as possible). The port must rapidly develop ship and barge units and provide additional piers and wharves within the port for this cargo handling process. In addition, particular attention must be given to helping cargo owners organize storage yards outside the scope of the port and expanding the exportation and importation of goods without using port piers in order to meet export-import needs and expedite the movement of ships.

4. Palletized cargo handling.

We must eventually develop complete cargo handling equipment systems and give particular attention to providing auxiliary equipment, such as clam-shell buckets, pallets and so forth, which raise the efficiency with which primary pieces of equipment are used very much. By means of investing some capital and supplies, possibly only money and domestic materials, we can achieve a very high level of mechanization in cargo handling, reduce the use of manual labor and breakage in cargo handling to a minimum and use clam-shell buckets for bulk cargo and pallets for packaged cargo. Palletized cargo handling will be suitable for us for the foreseeable future because the quantity of imports will be large and most imports will be packaged. Containerization is a future guideline, not the primary guideline at this time. Due to our special historic circumstances, containerized transportation will first and primarily be used by us in domestic transportation between the North and the South.

IV. The specialization of port piers:

Specialization leads to high labor productivity. Ordinarily, cargo handling areas are specialized by type of cargo and ship route. In view of its existing material and technical conditions, the port of Haiphong also should specialize its piers and

wharves on the basis of packaged cargo, bulk cargo, iron and steel and so forth in coordination with specialization by ship route, such as the European route, the Northeast and Southeast Asia routes, the coastal route and so forth.

No distinction concerning national origin should be made with regard to ships bringing imports; however, we must adopt a policy that gives priority in berthing and cargo handling to liners; Soviet and Vietnamese ships entering and leaving the port in accordance with plans can be eligible for this policy. Ships that are given priority must pay higher transportation charges and fees than normally.

V. Reorganizing planning.

To begin with, we must perfect the system of port plan norms.

--The number of tons of cargo handled should be used as the output norm while the number of tons shipped through the port should be used as the computed norm. The relationship between these two norms is the same as the relationship between the tons transported norm and the kilometers shipped norm in transportation. The port output norm should only encompass the number of tons directly transferred. When these norms are being implemented, permission cannot be granted to exceed the number of tons of cargo handled norm but can be given for exceeding the transfer norm.

--The wage fund should be used as the general labor norm.

--The profit norm (including the foreign currency norm) and the business profit norm should be used to evaluate the quality of and returns from production.

In implementation, the port, on the basis of the sector-wide transportation plan and acting as a communications center, must closely coordinate with the other transport sectors in order to formulate both short-term and long-term operational plans.

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INFORMATION ON VIETNAMESE PERSONALITIES

[The following information on Vietnamese personalities has been extracted from Vietnamese-language sources published in Hanoi, unless otherwise indicated. Asterisked job title indicates that this is the first known press reference to this individual functioning in this capacity.]

Phan Anh [PHAN ANH]

President of the Vietnam Lawyers Association; on 6 June 1981 he attended a reception for a delegation of the Bulgarian Lawyers Association. (NHAN DAN 7 Jun 81 p 1)

Trần Minh Bắc [TRAANF MINH BAWCS], *Sr. Col.

Author of an article in the cited source entitled, "The Study of Information and Military Information Science." (TAP CHI QUAN DOI NHAN DAN No 3, Mar 81 pp 43-49)

Nguyễn Văn Chiến [NGUYEENX VAWN CHIEENS]

Deputy Head of the Vietnam Institutes of Science; on 18 May 1981 he signed an agreement on a teledetection project to be built for Vietnam with the assistance of the United Nations Development Program. (NHAN DAN 20 May 81 p 4)

Tôn Thất Chiến [TOON THAATS CHIEENS]

*Deputy Head of the Agricultural Zoning and Planning Institute [Vien Quy hoach va Thiet Ke nong nghiep]; his article "Agricultural Zoning" appeared in the cited source. (NHAN DAN 5 Jun 81 p 3)

Lê Văn Chức [LEE VAWN CHUWCS], Deceased

Born in 1909 in Ca Mau, Minh Hai Province; VCP Member since 1936; former Chairman of the Struggle and Administrative Committee, Chau Doc Province; [former] Vice President of the Central Finance School; specialist on the VCP Central Committee Department for Research in Party History; he was in retirement at the time of his death on 25 April 1981. (NHAN DAN 19 May 81 p 4)

Nguyễn Cơn [NGUYEENX COON]

Member of the VCP Central Committee; on 25 May 1981 he accompanied VCP 1st Secretary Le Duan to the 4th Congress of the Kampuchean People's Revolutionary Party. (NHAN DAN 26 May 81 p 1)

Phạm Văn Đồng [PHAMJ VAWN DOONGF]

Premier; Chairman of the Central Committee for Educational Reform; on 21 May 1981 he spoke to the 7th Session of the Central Committee for Educational Reform. (NHAN DAN 22 May 81 p 1)

Phan Hiền [PHAN HIEENF]

Minister Responsible for Information and Cultural Relations with Foreign Nations; on 2 June 1981 he attended a National Day reception at the Italian Embassy. (NHAN DAN 3 Jun 81 p 4)

Phạm Hùng [PHAMJ HUNGF]

Member of the Political Bureau of the VCP Central Committee; Vice Premier; on 25 May 1981 he attended the departure of 1st Secretary Le Duan for the 4th Congress of the Kampuchean People's Revolutionary Party. (NHAN DAN 26 May 81 p 1)

Tố Hữu [TOOS HUWUX]

*Member of the Political Bureau of the VCP Central Committee; Vice Premier; on 25 May 1981 he attended the departure of 1st Secretary Le Duan to attend the 4th Congress of the Kampuchean People's Revolutionary Party. (NHAN DAN 26 May 81 p 1)

Bùi Thanh Khiết [BUIF THANH KHIEETS]

Head of the Secretariat of the Central Committee for Educational Reform; on 21 May 1981 he spoke to the 7th Session of the Committee for Educational Reform. (NHAN DAN 22 May 81 p 1)

Ksor Krơn [KSOR KROWN]

Alternate Member of the VCP Central Committee; Secretary of the VCP Committee, Gia Lai-Cong Tum Province; on 29 May 1981 he attended a meeting in Play-cu City marking the 4th Congress of the Kampuchean People's Revolutionary Party. (QUAN DOI NHAN DAN 2 Jun 81 p 4)

Lê Liên [LEE LIEEN], *Col

Is the author of an article in the cited source entitled, "Battlefield Air Force." (TAP CHI QUAN DOI NHAN DAN No 2, Feb 81 pp 39-49)

Lê Thanh Nghị [LEE THANH NGHIJ]

Member of the Political Bureau of the VCP Central Committee; Vice Premier; on 25 May 1981 he attended the departure of 1st Secretary Le Duan to attend the 4th Congress of the Kampuchean People's Revolutionary Party. (NHAN DAN 26 May 81 p 1)

Nguyễn Đại Nghĩa [NGUYEENX DAIJ NGHIAX], *Lt. Col.

Is the author of an article in the cited source entitled, "Management of Local Military Rear Services by Long An Province." (TAP CHI QUAN DOI NHAN DAN No 2, Feb 81 pp 70-75 and 79)

Ngô Đức Nhường [NGOO DUWCS NHUWOWNGF], *Sr. Col.

Is the author of an article in the cited source entitled, "The Hau Giang Troops Develop Local Strength and Actively Produce Grain and Food." (TAP CHI QUAN DOI NHAN DAN No 2, Feb 81 pp 63-69)

Lê Bá Phán [LEE BAS PHANS], *Lt. Col.

Translated from Russian into Vietnamese an article by a Soviet Colonel General on the effectiveness of party work which originally appeared in the Soviet publication KRASNAYA ZVEZDA and is carried in translated form in the cited source. (TAP CHI QUAN DOI NHAN DAN No 2, Feb 81 pp 22-30)

Mai Thanh Sơn [MAI THANH SOWN]

*Representative of the Vietnam Trade Organization [Co quan thuong mai Vietnam] in India; on 26 May 1981 he attended the signing of a credit agreement in India between the SRV and India. (NHAN DAN 27 May 81 p 4)

Nguyễn Quang Tạo [NGUYEENX QUANG TAOJ]

SRV Ambassador to India; on 26 May 1981 he attended the signing of credit agreement between the SRV and India. (NHAN DAN 27 May 81 p 4)

Nguyễn Dương Tâm [NGUYEENX ZUWOWNG TAAM], Deceased

Born in 1923; Member of the VCP; Specialist 4th Class in the Agriculture Department of the VCP Central Committee; he died following a period of illness on 5 June 1981. (NHAN DAN 9 Jun 81 p 4)

Nguyễn Cơ Thạch [NGUYEENX COW THACHJ]

Member of the VCP Central Committee; Minister of Foreign Affairs; on 25 May 1981 he attended the departure of 1st Secretary Le Duan for the 4th Congress of the Kampuchean People's Revolutionary Party. (NHAN DAN 26 May 81 p 1)

Cao Kiến Thiết [CAO KIEENS THIEETS]

*SRV Ambassador to the Mongolian People's Republic; on 21 May 1981 he awarded a medal to the Mongolian Women's Committee. (NHAN DAN 24 May 81 p 4)

Đặng Thí [DAWNGJ THIS]

Member of the VCP Central Committee; Minister in the Office of the Premier, Chairman of the Vietnam Subcommittee of the Vietnam-Laos Committee for Economic, Cultural, Scientific and Technical Cooperation; on 2 June 1981 he attended the 5th Session of the Committee in Vientiane. (NHAN DAN 3 Jun 81 p 1)

Mai Chí Thọ [MAI CHIS THOJ]

Member of the VCP Central Committee; Chairman of the People's Committee, Ho Chi Minh City; on 5 June 1981 he attended ceremonies marking the anniversary of Ho Chi Minh's departure from Vietnam on the road to national liberation. (NHAN DAN 7 Jun 81 p 1)

Trần Tân Thọ [TRAANF TAANS THOJ], Deceased

Member of the Standing Committee of the 1st National Assembly; former member of the Fatherland Front Committee, Hanoi; he died on 11 May 1981 at age 80. (NHAN DAN 19 May 81 p 4)

Phan Thu [PHAN THU], *Sr. Col.

Author of an article in the cited source entitled, "Some Views Concerning Organizing, Guiding and Managing Military Scientific and Technical Research Work." (TAP CHI QUAN DOI NHAN DAN No 3, Mar 81 pp 57-66)

Nguyễn Văn Tín [NGUYEENX VAWN TINS]

Vice President of the Vietnam Red Cross Association; his article "Red Cross Work" appeared in the cited source. (NHAN DAN 9 Jun 81 p 3)

Đinh Văn Trầm [DINH VAWN TRAAM]

*Vice Minister of Foreign Trade; on 4 June 1981 he signed an agreement on commercial and financial exchange between the SRV and Romania. (NHAN DAN 7 Jun 81 p 1)

Nguyễn Duy Trinh [NGUYEENX ZUY TRINH]

Member of the Political Bureau of the VCP Central Committee; Secretary of the VCP Central Committee; on 25 May 1981 he attended the departure of 1st Secretary Le Duan for the 4th Congress of the Kampuchean People's Revolutionary Party. (NHAN DAN 26 May 81 p 1)

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